

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-16 are pending in the application, with claims 1 and 10 being the independent claims. New claims 13-16 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objections to the Drawings

The Examiner has objected to the drawings under 37 CFR 1.83(a) for not showing the insulator of claim 10. Applicants note that claim 10 recites a "jack-side connector insulator" and a "plug-side connector insulator." Plug-side connector insulator 303 is clearly illustrated in FIG. 3. As stated in the specification at paragraph 0027, "Plug-side connector body 106 includes spring fingers 304, a plug-side conductor 302, and a plug-side connector insulator 303." Thus, the "plug-side connector insulator" feature of claim 10 is clearly shown in the figures.

With respect to "jack-side connector insulator," FIG. 2 is sought to be amended to show the insulator. Also, the specification is sought to be amended to add reference numeral 205. Support for this amendment can be found in the specification at paragraph 0026, which states (prior to being amended) that "A jack-side connector insulator (not

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visible from the figures) is preferably provided within lumen 204 and around jack-side conductor 206 to electrically isolate jack-side conductor 206 from jack-side connector body 112." FIG. 2 has simply been amended to show this described feature. This amendment to FIG. 2 adds no new matter, and its entry is respectfully solicited.

Based on these amendments and remarks, it is respectfully requested that the objection to the drawings be reconsidered and withdrawn.

Information Disclosure Statement

The Examiner has indicated that listing references in the specification is not a proper information disclosure statement. Applicants note that two U.S. patents are cited in the Related Art section of the present application. The Examiner has listed one of these patents (U.S. Pat. No. 3,708,781 to Trompeter) on the Form PTO-892 that accompanied the Office Action. The other patent (U.S. Pat. No. 4,037,909 to Trompeter *et al.*) is cited in an Information Disclosure Statement submitted concurrently herewith.

Rejections under 35 U.S.C. § 102

(1) Vetter

The Examiner has rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 3,609,632 to Vetter. Applicants respectfully traverse this rejection and request that it be reconsidered and withdrawn.

Vetter discloses a releasable electrical connector having a visual indicator. However, the indicator of Vetter is different from the visual indicator recited in claim 1. Specifically, Vetter discloses an indicator button 180 that extends out from a passage 190

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in the sleeve 156 of the connector body to indicate complete engagement of the contacts. The button is retracted into passage 190 when engagement is not complete. See Vetter at col. 6, lines 39-56, and col. 8, lines 56-71.

In contrast, claim 1 recites:

a first indicator on said sleeve, said indicator being configured to align with a reference point when said slots in said sleeve are fully engaged with the lugs of a jack-side connector to provide a visual indication that the plug-side connector is fully engaged with the jack-side connector.

Note that the claimed indicator is "configured to align with a reference point when said slots in said sleeve are fully engaged." For example, the specification describes an embodiment wherein the indicator aligns with one of the lugs of a BNC jack. When the jacks themselves are mounted on a panel such that the lugs are aligned vertically, the invention permits visual confirmation that each mating connector pair is fully engaged by simply inspecting from the rear of each plug-side connector to confirm that each indicator is vertically oriented. See, for example, the specification at paragraphs 0037 and 0039. This feature is not taught by Vetter.

The visual indicator of Vetter provides an indication by the fact that it extends outward from the body of the connector. This indication is made regardless of orientation. As a result, the indicator of Vetter would not be suitable for use in some applications to which the present invention is directed. For example, as described in the present specification at paragraph 0039:

BNC Jack-side connectors are typically mounted on the case panels of electronic equipment. They are typically oriented so that the lugs of all jack-side connectors are aligned. For example, a typical orientation for standard two-lug BNC jack-side connectors has the lugs aligned on a vertical axis (i.e., at 12 o'clock and 6 o'clock on a clock

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dial). With this orientation, the invention permits visual confirmation that each mating connector pair 100 is fully engaged by simply inspecting from the rear of each plug-side connector 102 to confirm that each indicator 124 is vertically oriented. The invention makes it unnecessary to visually inspect the position of lug 122 in J-slot 116.

The invention permits quick visual inspection of many connectors in this manner. The visual indicator of Vetter would not permit such quick inspection because the indication is not made with respect to a reference point.

Thus, Vetter does not teach every element of claim 1. For this reasons, it is respectfully submitted that claim 1 is not anticipated by Vetter. Reconsideration and withdrawal of this rejection is requested.

(2) **Mattingly *et al.***

The Examiner has rejected claims 1-8 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 4,702,537 to Mattingly *et al.* Applicants respectfully traverse this rejection and request that it be reconsidered and withdrawn.

Mattingly discloses a quick-disconnect connector having a bayonet pin coupling system. When the connector is fully latched (i.e., when bayonet pins 16 are mated in corresponding detent grooves 70), visual indicator ports 74 in coupling ring 24 permit visual inspection of same. Specifically, the mating of bayonet pins 16 and detent grooves 70 can be seen through inspection ports 74. See Mattingly at col. 5, lines 35-37, and Figure 1. This is far different than the claimed invention.

A conventional BNC connector permits confirmation of engagement by inspecting the relative position of the lug in the J-shaped slot. However, as noted in paragraph 0008 of the specification:

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Further, it is often not possible for a user to look at the mating connector pairs from a viewpoint that allows visual inspection of the relative positioning between the lug and the J-shaped slot. Consequently, it is often difficult to manually determine whether a jack-side connector is fully engaged with a corresponding plug-side connector.

Mattingly has this same shortcoming. In fact, coupling ring 24 completely hides the interaction between bayonet pins 16 and detent grooves 70. For this reason, Mattingly had to provide holes (i.e., visual indicator ports 74) in ring 24 so that a user could look through ring 24 to do the inspection that has always been possible in the conventional BNC connector.

In contrast to the conventional BNC connector and to the connector of Mattingly, the claimed connector permits easy visual confirmation of engagement. As stated in the specification at paragraph 0033:

In a preferred embodiment, indicator 124 is a V-shaped notch, as shown in FIG. 4. In alternate embodiments, indicator 124 may be a dimple on sleeve 108, or may be any other shape, size, or configuration, as would be known to one skilled in the relevant art. However, an advantage of the V-shaped notch is that it is easily visible from the back of plug-side connector 102. That is, referring back to FIG. 1, when plug-side connector 102 is connected to a jack-side connector 104, the V-shaped notch is clearly visible when looking toward plug-side connector 102 from a point on axis 114 to the right of plug-side connector 102. This view point is referred to herein as looking from the "back" of plug-side connector 102.

Mattingly does not provide such a visual indicator. Instead, Mattingly provides a port through which a user may look to view the relative positioning between the pin and the detent groove. Thus, Mattingly does not disclose the following element of claim 1:

a first indicator on said sleeve, said indicator being configured to align with a reference point when said slots

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in said sleeve are fully engaged with the lugs of a jack-side connector to provide a visual indication that the plug-side connector is fully engaged with the jack-side connector.

Thus, Mattingly does not teach every element of claim 1. For this reasons, it is respectfully submitted that claim 1 is not anticipated by Mattingly. Reconsideration and withdrawal of this rejection are requested.

Claims 2-8 depend from and add additional features to independent claim 1. Thus, claims 2-8 are patentable for at least the same reasons discussed above for claim 1. Accordingly, reconsideration and withdrawal of the rejection of claims 2-8 are respectfully requested.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 9-12 under 35 U.S.C. §103(a) as being obvious over Mattingly in view of Vetter and further in view of U.S. Pat. No. 3,708,781 to Trompeter. Applicants respectfully traverse this rejection and request that it be reconsidered and withdrawn.

Claim 9 depends from and adds additional features to independent claim 1. Thus, claim 9 is patentable for at least the same reasons discussed above for claim 1. Accordingly, reconsideration and withdrawal of the rejection of claim 9 are respectfully requested.

Claim 10 is an independent claim that recites a feature similar to the one discussed above for claim 1. Specifically, claim 10 recites:

two indicators on said sleeve, each indicator
aligning with a terminal portion of a corresponding one of
said slots and providing a visual indication of full mating

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of said connector when said slots in said sleeve are fully engaged with said lugs of said jack-side connector body.

As discussed above for claim 1, neither Vetter or Mattingly teaches or suggests this claimed feature. Vetter's indicator button does not provide an indication by aligning with anything. Further, Mattingly does not provide an indicator at all. Mattingly simply provides a window or hole through which the pin/groove mating can be viewed. Trompeter simply teaches a BNC plug design. Trompeter does not teach or suggest the claimed indicator.

Based on at least this difference, Applicants respectfully submit that claim 10 is not obvious over Mattingly in view of Vetter and Trompeter. Reconsideration and withdrawal of this rejection are requested.

Claims 11 and 12 depend from and add additional features to independent claim 10. Thus, claims 11 and 12 are patentable for at least the same reasons discussed above for claim 10. Accordingly, reconsideration and withdrawal of the rejection of claims 11 and 12 are respectfully requested.

New Claims 13-16

New claims 13-16 are sought to be added. Favorable consideration of these new claims is respectfully solicited.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the

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Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Michael B. Ray
Attorney for Applicants
Registration No. 33,997

Date: 4/3/02

1100 New York Avenue, N.W.
Suite 600
Washington, D.C. 20005-3934
(202) 371-2600

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Version with markings to show changes made

In the specification:

Paragraph [0024] has been amended as follows:

FIG. 2 is a perspective front view of an M-BNC jack-side connector 104.

Jack-side connector 104 includes a jack-side connector housing 202, jack-side connector body 112, a lumen 204, a jack-side conductor 206, a jack-side connector insulator 205 [(not shown)], and lugs 122. Jack-side connector body 112 is preferably tubular and cylindrical and formed of a conductive material such as aluminum, beryllium copper, brass, zinc or stainless steel.

Paragraph [0026] has been amended as follows:

Lumen 204 extends longitudinally through jack-side connector body 112.

Jack-side conductor 206 is disposed within lumen 204, and is configured to mate with a plug-side conductor 302 (discussed below) of plug-side connector 102 to form an electrical connection. In a preferred embodiment, jack-side conductor 206 is a female socket. A jack-side connector insulator 205 [(not visible from the figures)] is preferably provided within lumen 204 and around jack-side conductor 206 to electrically isolate jack-side conductor 206 from jack-side connector body 112. In a preferred embodiment, the jack-side connector insulator is formed of polytetrafluoroethylene (PTFE).

In the claims:

New claims 13-16 are sought to be added.

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